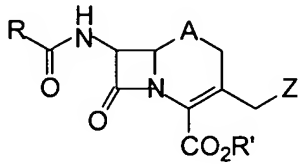
IN THE CLAIMS

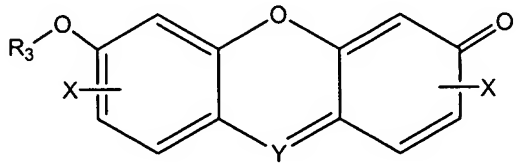
1. (Currently amended) A compound having the ~~general~~ formula:



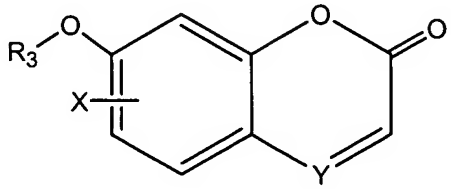
(I)

in which R is a benzyl, 2-thienylmethyl, or cyanomethyl group; R' is selected from the group consisting of H, alkyl, physiologically acceptable salts or metal, ~~ester groups,~~ ammonium cations, --$CHR_2OCO(CH_2)_nCH_3$, --$CHR_2OCOC(CH_3)_3$, in which R_2 is selected from the group consisting of H and lower alkyl, acylthiomethyl, acyloxy-alpha-benzyl, deltabutyrolactonyl, methoxycarbonyloxymethyl, phenyl, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, and dialkylaminocarbonyloxymethyl, and n is from 1-4; A is selected from the group consisting of S, O, SO, SO_2 and CH_2 ; and Z is a donor fluorescent moiety.

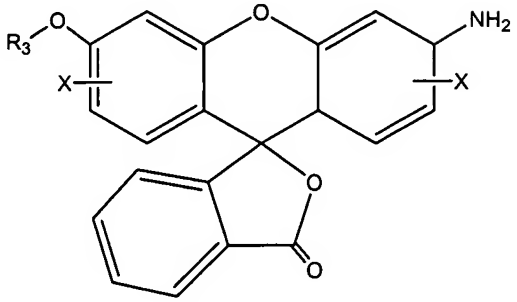
2. (Currently amended) The compound of claim 1, wherein the donor fluorescent moiety is selected from the group consisting of:



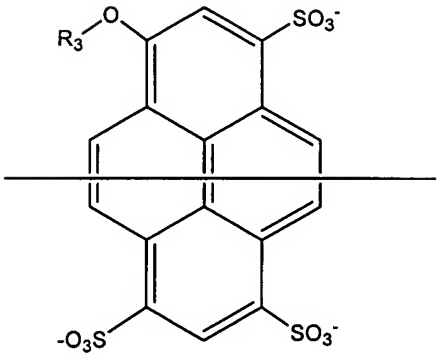
(II)



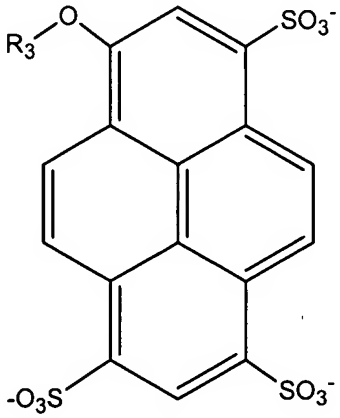
(III)



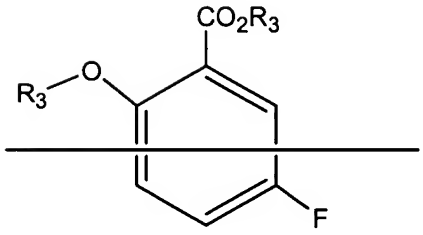
(IV)



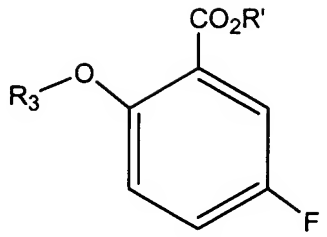
(V)



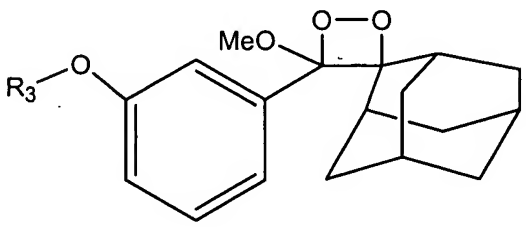
(V)



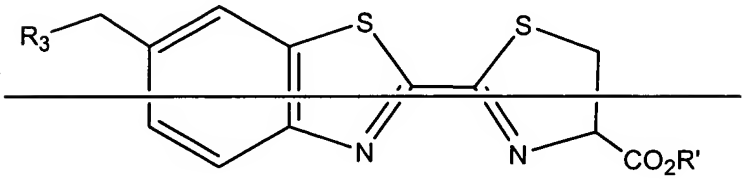
(VI)



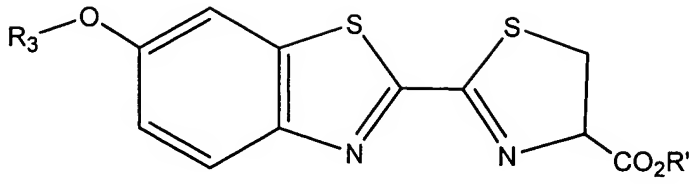
(VI)



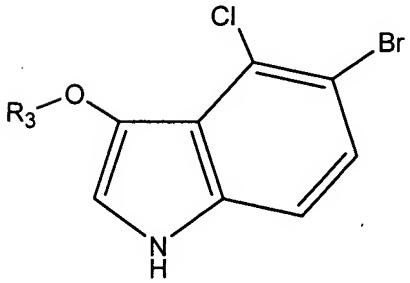
(VII)



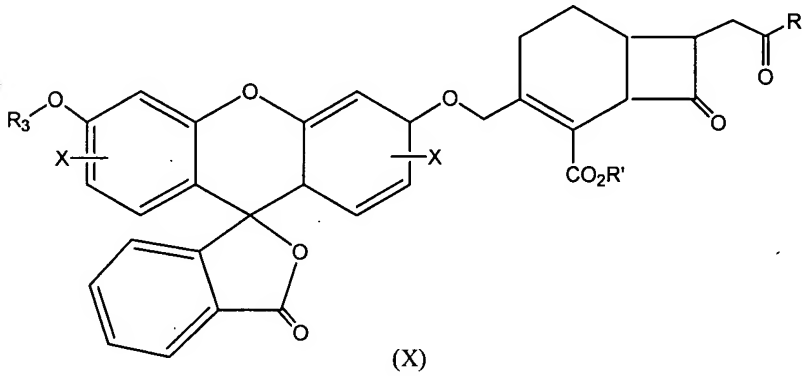
(VIII)



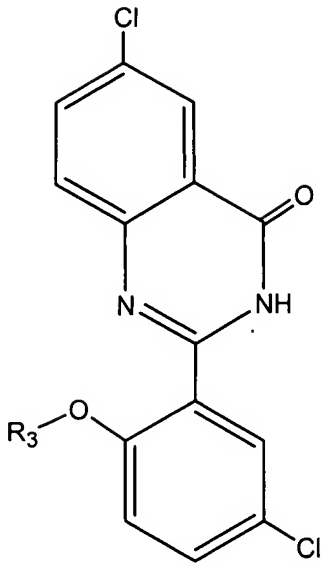
(VIII)



(IX)



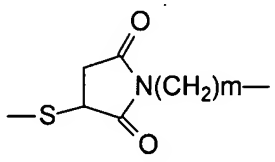
(X)



(XI)

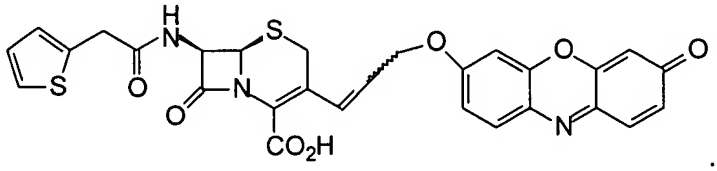
wherein R and R' are as defined in claim 1, R_3 is a linker for the fluorescent donor, X is H, F, Cl, Br, or CO_2R', ~~or lower alkyl~~, and Y is N, CH, C-CN, or C-CF_3 ~~or O~~.

3. (Currently amended) The compound of claim 2, wherein the linker is selected from the group consisting of a direct bond to a heteroatom in the fluorescent moiety, --$O(CH_2)_n$--, --$S(CH_2)_n$--, --$NR_2(CH_2)_n$--, --$N^+R_2(CH_2)_n$, --$OCONR_2(CH_2)_n$--, --$O_2C(CH_2)_n$--, --$SCSNR_2(CH_2)_n$--, --$SCSO(CH_2)_n$--, --$S(CH_2)_nCONR_2(CH_2)_m$, --$S(CH_2)_nNR_2CO(CH_2)_m$, and



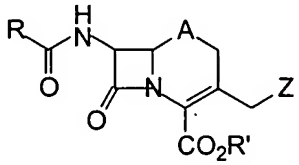
in which R_2 is as previously defined; and m and n are each independently integers from [0] 1 to 4.

4. (Currently amended) A ~~The~~ compound ~~of claim 1, wherein the compound has~~ having the structure:



5. (Withdrawn) A method for detecting the presence of β-lactamase activity in a sample, comprising:

contacting the sample with at least one compound of general formula I:



(I)

in which R is a benzyl, 2-thienylmethyl, or cyanomethyl group, or a quencher; R' is selected from the group consisting of H, physiologically acceptable salts or metal, ester groups, ammonium cations, $--CHR_2OCO(CH_2)_nCH_3$, $--CHR_2OCOC(CH_3)_3$, in which R_2 is selected from the group consisting of H and lower alkyl, acylthiomethyl, acyloxy-alpha-benzyl, deltabutyrolactonyl, methoxycarbonyloxymethyl, phenyl, methylsulphinylmethyl, β-morpholinoethyl, dialkylaminoethyl, and dialkylaminocarbonyloxymethyl; A is selected from the group consisting of S, O, SO, SO_2 and CH_2 ; and Z is a donor fluorescent moiety.

6. (Withdrawn) The method of claim 5, wherein said sample has a β-lactamase reporter gene.

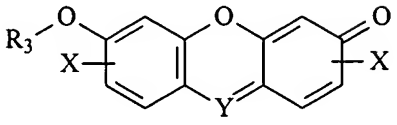
7. (Withdrawn) The method of claim 6, wherein said β-lactamase reporter gene is in a mammalian cell.

8. (Withdrawn) The method of claim 5, wherein samples having β-lactamase activity are separated from samples having no β-lactamase activity by fluorescent-activated cell sorting.

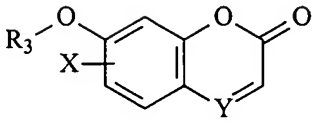
9. (Withdrawn) The method of claim 5, wherein the β-lactamase activity results from a β-lactamase enzyme that was prepared by mutagenesis of another β-lactamase enzyme.

10. (Withdrawn) The method of claim 5, wherein said compound is a membrane permeant derivative.

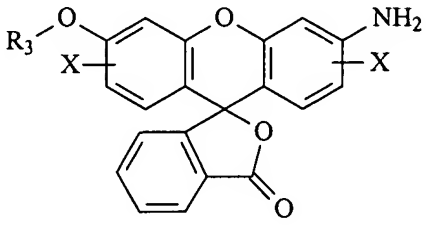
11. (Withdrawn) The method of claim 5, wherein the donor fluorescent moiety is selected from the group consisting of:



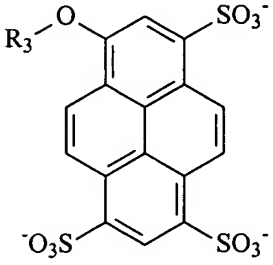
(II)



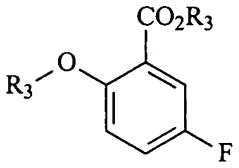
(III)



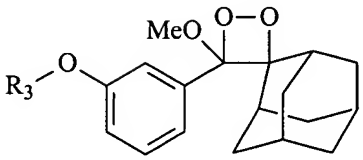
(IV)



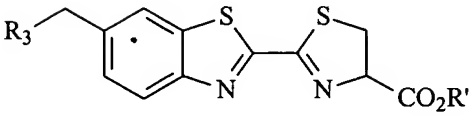
(V)



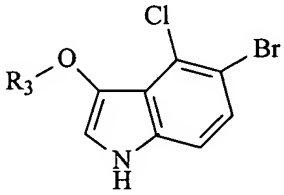
(VI)



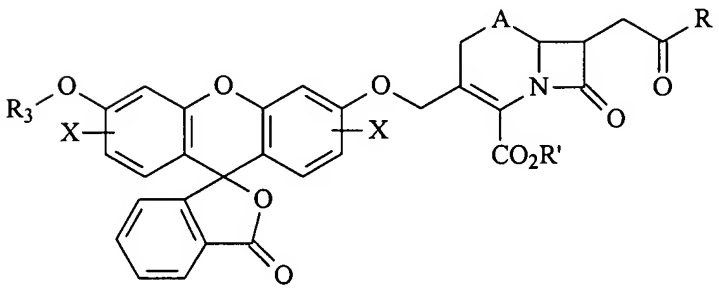
(VII)



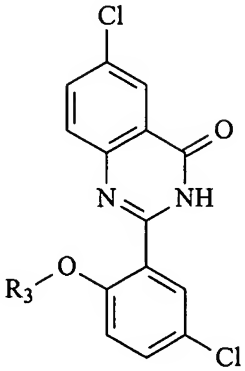
(VIII)



(IX)



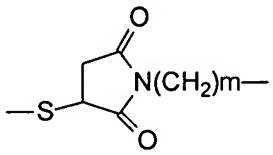
(X)



(XI)

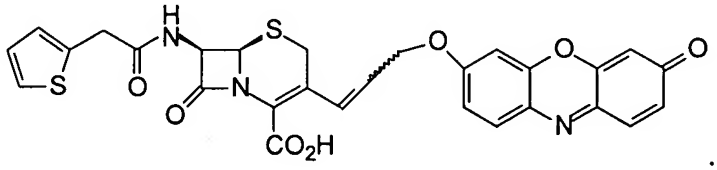
R_3 is a linker for the fluorescent donor, X is H or lower alkyl, and Y is N or O.

12. (Withdrawn) The method of claim 11, wherein the linker is selected from the group consisting of a direct bond to a heteroatom in the fluorescent moiety, $--O(CH_2)_n--$, $--S(CH_2)_n--$, $--NR_2(CH_2)_n--$, $--N^+R_2(CH_2)_n$, $--OCONR_2(CH_2)_n--$, $--O_2C(CH_2)_n--$, $--SCSNR_2(CH_2)_n--$, $--SCSO(CH_2)_n--$, $--S(CH_2)_nCONR_2(CH_2)_m$, $--S(CH_2)_nNR_2CO(CH_2)_m$, and



in which R_2 is as previously defined; and m and n are each independently integers from 0 to 4.

13. (Withdrawn) The method of claim 5, wherein the compound has the structure:



14. (Withdrawn) A method for determining whether a compound of claim 1 is a substrate for a β-lactamase enzyme, comprising: contacting said compound with a sample containing said β-lactamase enzyme; exciting at the wavelength for the said compound when cleaved; and measuring fluorescence.

15. (Withdrawn) The method of claim 14, wherein said compound is a membrane permeant derivative.

16. (Withdrawn) The method of claim 14, wherein said β-lactamase enzyme has been prepared by mutagenesis of another β-lactamase enzyme.